Letter to the Editor

Dear CrossTalk Editor,

Regarding the From the Sponsor article by Tom Christian in the August 2005 CrossTalk. The first paragraph of his article ends:

> "... relentless commitment to quality: employing peer reviews, configuration control, documentation, and testing."

Although these items are all necessary to achieve quality deliverable software, they are not sufficient: The one key item missing from the above list is, in my view, the most important one, good design practices.

I have heard said numerous times over the years, "You cannot test in quality," and it is so true. A team can spin its wheels for months thoroughly testing a system only to find itself retesting, retesting, retesting because every change seems to *break* the system in unintended ways. This is usually because the basic design of the system is flawed due to one or more of the following practices: use of global variables, lack of cohesion, close coupling, inadequate abstraction, lack of encapsulation techniques, etc. (All these principles I mention pre-date object orientation, yet it is surprising how little they are understood even today!)

A system with a truly good design could possibly succeed with limited testing, documentation, and peer reviews (configuration management is always crucial in my view). But, a poorly designed system will fail no matter how much it is tested, reviewed, or documented.

The larger and more complex the system, the more crucial it is to use sound design practices. It does not come automatically. No specific software language can guarantee it. It is a much larger challenge than "properly indenting your code." It is sorely needed today more than ever.

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